

Claim 1. An isolated DNA molecule which is or is complementary to a DNA molecule selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.

Claim 2. An isolated DNA molecule for use as a DNA probe that is diagnostic for corn event MON88017 DNA comprising at least 11 contiguous nucleotides of SEQ ID NO:1, or the complement thereof.

Claim 3. An isolated DNA molecule for use as a DNA probe that is diagnostic for corn event MON88017 comprising at least 11 contiguous nucleotides of SEQ ID NO:2, or the complement thereof.

Claim 4. A method of detecting the presence of a corn event MON88017 nucleotide sequence in a biological sample, the method comprising:

- (a) contacting the sample with a DNA primer pair;
- (b) performing a nucleic acid amplification reaction, thereby producing an amplicon; and

(c) detecting said amplicon,  
wherein said amplicon comprises SEQ ID NO:1 or SEQ ID  
NO:2.

Claim 5. A stably transformed maize plant, the DNA of  
which produces a DNA amplicon comprising SEQ ID NO:1 or  
SEQ ID NO:2 when subjected to the method of Claim 4.

Claim 6. The method of claim 4, wherein said DNA primer  
pair comprises the nucleotide sequences as set forth in SEQ  
ID NO:6 and SEQ ID NO:7.

Claim 7. A method of detecting the presence of corn event  
MON88017 DNA in a biological sample comprising:

(a) contacting the sample with a probe that hybridizes  
under stringent hybridization conditions with  
MON88017 DNA and does not hybridize under  
stringent hybridization conditions with corn plant  
genomic DNA that is not MON88017 DNA, wherein  
said probe is or is complementary to a sequence

2  
43

selected from the group consisting of SEQ ID NO:1

and SEQ ID NO:2;

(b) subjecting the sample and probe to stringent hybridization conditions; and

(c) detecting hybridization of the probe to MON88017 DNA.

Claim 8. A method of determining the zygosity of DNA of a corn plant comprising corn event MON88017 DNA in a sample comprising:

(a) contacting the sample with three different primers comprising SEQ ID NO:30, SEQ ID NO:31, and SEQ ID NO:32, that (1) when used in a nucleic-acid amplification reaction comprising corn event MON88017 DNA, produces a first amplicon that is diagnostic for corn event MON88017 and (2) when used in a nucleic-acid amplification reaction comprising native corn genomic DNA other than MON88017 DNA produces a second amplicon that is diagnostic for native corn genomic DNA into which

the inserted DNA in MON88017 is present in corn

event MON88017;

(b) performing a nucleic acid amplification reaction;

and

(c) comparing the amplicons produced, wherein the presence of both amplicons is diagnostic of the zygosity of the sample.

Claim 9. A hybrid corn seed wherein at least one parent is corn event MON88017.

Claim 10. Seed of a corn plant having been deposited under ATCC Accession No. PTA-5582.

Claim 11. A corn plant MON88017 or parts thereof produced by growing the seed of claim 10.

Claim 12. Pollen, ovule, seed, roots, or leaves of the corn plant MON88017 of claim 11.

Claim 13. Progeny of the corn plant MON88017 of claim 11, wherein said progeny comprise SEQ ID NO:1 and SEQ ID NO:2.

Claim 14. A corn plant comprising SEQ ID NO:1 and SEQ ID NO:2.

Claim 15. An isolated nucleic acid segment comprising at least from about 11 to about 20 consecutive nucleotides selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.

Claim 16. An isolated polynucleotide comprising a nucleotide sequence which is or is complementary to a sequence selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.

Claim 17. A method of detecting the presence of a corn event MON88017 polynucleotide in a biological sample, the method comprising:

(a) contacting the sample with a probe under stringent hybridization conditions, wherein said probe comprises a contiguous nucleotide sequence that is or is complementary to a sequence selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2; and

(b) detecting hybridization of said probe to said sample, wherein hybridization of said probe to said sample is diagnostic for the presence of said corn event MON88017 polynucleotide in said sample.

Claim 18. A composition comprising a nucleotide sequence selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2, wherein said composition is a commodity product selected from the group consisting of corn meal, corn flour, corn oil, corn silk, corn starch, and processed foodstuffs.

Claim 19. A probe from about 11 to about 20 consecutive nucleotides in length for use in detecting the presence of corn event MON88017 DNA in a biological sample, wherein

said consecutive nucleotides are selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.

Claim 20. A probe as set forth in Claim 19 wherein said probe comprises a nucleotide selected from the group consisting of a deoxyribonucleic acid, a ribonucleic acid, and a nucleotide analogue.

Claim 21. The probe as set forth in Claim 20 wherein said probe is labeled with at least one fluorophore.

Claim 22. A commodity or foodstuff comprising corn event MON88017 nucleotide sequences, wherein said sequences are selected from the group consisting of SEQ ID NO:1 and SEQ ID NO:2.

Claim 23. The commodity or foodstuff of claim 31 selected from the group consisting of corn oil, corn starch, corn meal, corn flour, a cosmetic, and a bulking agent.

Claim 24. Detecting the presence of a nucleotide sequence diagnostic for the presence of corn event MON88017 in a biological sample, wherein said biological sample is selected from the group consisting of corn oil, corn meal, corn flour, corn gluten, corn cakes, and corn starch.